

AMENDMENTS TO THE CLAIMS

1-9. (Cancelled)

10. (Previously presented) An image coding apparatus for coding a plurality of images data corresponding respectively to a plurality of viewpoints, comprising:

a joining means for joining the plurality of images data based on a predetermined joining method;

a coding means for coding a joined image data; and

a 2-dimensional display image generating method coding means for coding a 2-dimensional display image generating method representing how a 2-dimensional display image is generated from the joined image data,

wherein the joining method represents an arrangement position of the image data that should be joined and an inversion direction of the image data that should be joined, and

wherein the 2-dimensional display image generating method represents image data that should be used within the joined image data.

11. (Cancelled).

12. (Cancelled).

13. (Currently amended) An image decoding apparatus for decoding coded data of joined image data, the joined image data being formed by joining a plurality of images data corresponding respectively to a plurality of viewpoints, in a predetermined joining method,

comprising:

a demultiplexing means for extracting, from coded data being input, the coded joined image data and 2-dimensional display image generating information representing how a 2-dimensional display image is generated from the joined image data,

a decoding means for decoding the coded joined image data;

a 2-dimensional display image generating method decoding means for decoding the 2-dimensional display image generating information; and

a 2-dimensional display image generating means for generating a 2-dimensional display image, from the decoded joined image data based on the decoded 2-dimensional display image generating information,

wherein the 2-dimensional display image generating information represents image data that should be used within the joined image data, and

wherein the joining method represents an arrangement position of the image data that should be joined and an inversion direction of the image data that should be joined.

14. (Cancelled)

15. (Previously presented) The image decoding apparatus according to Claim 13, wherein the 2-dimensional display image is a miniaturized image for displaying a plurality of the joined images data in a menu representation.

16. (Canceled)

17. (Currently amended) A recording medium comprising:

an image data portion for storing encoded joined image data, encoded joined image data being generated by joining a plurality of images data corresponding respectively to a plurality of viewpoints in a predetermined joining method and by encoding the joined image data, and

a header portion for storing header information with respect to the encoded joined image data,

the header portion comprising:

stereo image identification information that represents the fact that the encoded joined image data constitutes a stereo image made up of the plurality of images data, and

2-dimensional display image generating information representing how a 2-dimensional display image is generated from the encoded joined image data,

wherein the 2-dimensional display image generating information represents image data that should be used within the joined image data, and

wherein the joining method represents an arrangement position of the image data that should be joined and an inversion direction of the image data that should be joined.

18. (Currently Amended) The recording medium according to ~~Claim 14~~Claim 17, wherein the header portion is repeatedly stored in the image data portion.

19. (Previously presented) The image decoding apparatus according to Claim 13, further comprising a display means capable of switching between a stereo representation and a 2-dimensional representation.

20. (Previously presented) The image decoding apparatus according to Claim 19, wherein automatic switching is done between the stereo representation and the 2-dimensional representation, based on information stored in a header portion.

21-24. (Cancelled)

25. (Currently amended) An image recording apparatus for recording a plurality of images data corresponding respectively to a plurality of viewpoints, into a recording area, comprising:

a joining means for joining the plurality of images data using a predetermined joining method; and

a 2-dimensional display image generating method coding means for encoding a 2-dimensional display image generating method representing how a 2-dimensional display image data is generated from the joined image data,

wherein the recording area includes:

an image recording sector for recording the joined image data or the ~~2-dimensional-2-dimensional~~ image data;

an audio recording sector for recording an audio data; and

a subcode sector for recording an associated information, and

wherein the 2-dimensional display image generating method represents image data that should be used within the joined image data, and

wherein the joining method represents an arrangement position of the image that should be joined and an inversion direction of the image data that should be joined.

26. (Currently amended) An image recording apparatus for recording a plurality of images data corresponding respectively to a plurality of viewpoints, into a recording area, comprising:

a joining means for joining the plurality of images data using a predetermined joining method; and

a 2-dimensional display image generating method coding means for encoding a 2-dimensional display image generating method representing how a 2-dimensional display image data is generated from the joined image data,

wherein the recording area includes an image recording sector for recording the joined image data or the 2-dimensional image data, and a coded data of the 2-dimensional display image generating method is recorded in the image recording sector, and

wherein the 2-dimensional display image generating method represents image data that should be used within the joined image data, and

wherein the joining method represents an arrangement position of the image data that should be joined and an inversion direction of the image data that should be joined.

27. (Currently amended) An image recording apparatus for recording a plurality of images data corresponding respectively to a plurality of viewpoints, into a recording area, comprising:

a joining means for joining the plurality of images data using a predetermined joining method; and

a 2-dimensional display image generating method coding means for encoding a 2-dimensional display image generating method representing how a 2-dimensional display image data is generated from the joined image data,

wherein the recording area includes an audio recording sector for recording an audio data, and a coded data of the 2-dimensional display image generating method is recorded in the audio recording sector, wherein the 2-dimensional display image generating method represents image data that should be used within the joined image data,

wherein the joining method represents an arrangement position of the image data that should be joined and an inversion direction of the image data that should be joined.

28. (Currently amended) An image recording apparatus for recording a plurality of images data corresponding respectively to a plurality of viewpoints, into a recording area, comprising:

a joining means for joining the plurality of images data using a predetermined joining method; and

a 2-dimensional display image generating method coding means for encoding a 2-dimensional display image generating method representing how a 2-dimensional display image data is generated from the joined image data,

wherein the recording area includes a subcode sector for recording an associated information, and a coded data of the 2-dimensional display image generating image is recorded in the subcode recording sector,

wherein the 2-dimensional display image generating method represents image data that should be used within the joined image data, and

wherein the joining method represents an arrangement position of the image data that should be joined and an inversion direction of the image data that should be joined.

29. (Previously presented) The recording medium according to Claim 17, wherein the header portion is repeatedly multiplexed to the coded data.

30. (Previously presented) The image decoding apparatus according to Claim 15, further comprising a display means capable of switching between a stereo representation and a 2-dimensional representation.

31. (Previously presented) The image coding apparatus according to Claim 10, wherein the 2-dimensional display image generating method further represents an inversion direction of the image data that should be used.

32. (Previously presented) The image decoding apparatus according to Claim 13, wherein the 2-dimensional display image generating information further represents an inversion information representing an inversion direction of the image data that should be used.

33. (Previously presented) The recording medium according to Claim 17, wherein the 2-dimensional display image generating information further represents an inversion direction of the image data that should be used.

34. (Previously presented) The image recording apparatus according to Claim 25, wherein the 2-dimensional display image generating method further represents an inversion direction of the image data that should be used.

35. (Previously presented) The image recording apparatus according to Claim 26, wherein the 2-dimensional display image generating method further represents an inversion direction of the image data that should be used.

36. (Previously presented) The image recording apparatus according to Claim 27, wherein the 2-dimensional display image generating method further represents an inversion direction of the image data that should be used.

37. (Previously presented) The image recording apparatus according to Claim 28, wherein the 2-dimensional display image generating method further represents an inversion direction of the image data that should be used.